

# From Employment to Engagement? Stable Jobs, Temporary Jobs, and Cohabiting Relationships

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## Abstract

Using French data on the work and family history of large samples of young adults, this paper provides evidence that access to permanent jobs has a much stronger impact than access to temporary jobs on the probability of entering a first cohabiting relationship as well as on the probability of having a first child. Men's and women's age at cohabiting relationship and at first child have strongly increased during the second half of the last century. According to our estimates, about 25% of the increase in age at first cohabitation and about 40% of the increase in age at first child can be explained by the rise in unemployment and in the share of temporary jobs among young workers.

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# 1 Introduction

Over the past decades, it has become increasingly difficult for young men and women to enter the labor market, especially with a permanent contract (*OECD.Stat*). In this paper, we provide evidence that this rise in job insecurity likely contributed to increase the age at which individuals start cohabiting relationships as well as the age at which they have their first child. Using detailed information on the work and family history of large representative samples of young French adults, we show that access to permanent jobs has actually a much stronger impact on the probability of entering a cohabiting relationship and forming a family than access to temporary jobs. According to our estimates, about 25% of the increase in age at first cohabiting relationship and about 40% of the increase in age at first birth observed over the recent decades can be explained by the decline in the share of permanent labor contracts among younger workers.

Our findings contribute to a long-standing strand of research that explores the relationship between employment and family formation<sup>1</sup>. Several papers have highlighted the importance of job security for fertility decisions (See Pailhé and Solaz, 2012; Prifti and Vuri, 2013 or Modena, Rondinelli and Sabatini, 2014 for instance). Much less is known however on the differential impact of long-term and short-term contracts for cohabiting relationships or marriage, and our main contribution is to show that access to permanent job positions has different implications for cohabitation than access to temporary job positions. Using both an event study and a timing of events methodology (Abbring and van den Berg, 2003, we are also able to investigate whether access to employment impacts fertility decisions directly or only through cohabiting relationships. We also investigate whether the links between employment and cohabitation changed across cohorts born in the second half of the last century.

Few papers have provided causal evidence on the links between employment and marriage or cohabiting relationships. The two basic reasons for this lack of evidence are reverse causality and selection issues. Individuals who find a job sooner are likely to exhibit unobserved characteristics that may also influence the timing of their cohabiting relationship and both transitions may impact each other.

The few papers that account for these issues are suggestive that access to employment has a positive impact on cohabiting relationships. For instance, building on an RCT, Mamun (2008) finds that worked hours and earnings increase women's probability to marry, but have no effects on men. In another setting, Black, McKinnish and Sanders (2003) find that the coal boom that happened in the seventies in the US increased women's marriage rate.

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<sup>1</sup>See, e.g., Ekert-Jaffé and Solaz (2001); Prioux (2003) or Vergauwen, Neels and Wood (2016) on the links between employment status and couple formation and Adsera (2005); Goldstein et al. (2013) or Huttunen and Kellokumpu (2016) for employment and fertility decisions.

Relative to these articles, our paper does not focus on the overall probability to marry, but on the timing of cohabiting relationships. As it happens, it is mainly the timing of cohabitations which changed a lot over the recent decades, not the overall rate of cohabitation. In France, cohabitation rates have remained completely flat over the recent years, whereas the average age at first cohabitation increased significantly (Prioux, 2003). These delays in age at first cohabiting relationship likely have important implications for fertility decisions. Postponements in cohabiting relationships are likely to generate postponements in birth that mechanically result in either an overall decrease in fertility or in shorter intervals between births. Evidence are mixed regarding the links between birth postponements and completed fertility<sup>2</sup>. There exist however a few papers documenting the negative consequences of shorter birth spacings for children's outcomes (see e.g., Buckles and Munnich, 2012). Additionally, birth postponements may have adverse public health consequences as mothers' and children's health hazards increase with maternal age.

Most papers on the links between employment and the timing of marriages (or cohabiting relationships) use duration models, with or without frailty (See, e.g., Ekert-Jaffé and Solaz, 2001, 2002; Kalmijn, 2011; Vergauwen, Neels and Wood, 2016). One feature of these duration models is that they do not account for the potential correlation between unobservable characteristics impacting employment and cohabitation transitions. They cannot account for reverse causality either<sup>3</sup>. To overcome these issues, we develop a timing of events analysis, using the model developed by Abbring and van den Berg (2003). Assuming that individuals cannot predict in advance the exact date of occurrence of the events under consideration or do not act upon this information before the events happen (the no-anticipation assumption), this model enables to assess the causal relationships between these events, even when their timings are affected by common unobserved factors. This analysis is suggestive that stable jobs have an impact on the probability of entering cohabiting relationships which is much stronger than the impact of temporary jobs. First stable jobs multiply men's and women's instantaneous probability to enter a first cohabiting relationship by 3.8 and 3.4 respectively. By contrast, first temporary jobs multiply women's instantaneous probability to enter a first cohabiting relationship by 1.1 only and they have no significant impact for men.

Using the same model, we further investigate the links between employment, cohabitation and fertility. We provide evidence that access to stable employment affects positively the probability of

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<sup>2</sup>Pailhé and Solaz (2012) for instance, find that employment uncertainty tends to delay first parenthood but has a limited impact on completed fertility in France. In other European countries however, d'Albis, Greulich and Ponthière (2017) show that women who postpone childbirth for economic reasons are less likely to become mothers. Also, Goldstein et al. (2013) find that OECD countries that were hit hard by the recession experienced a stronger decrease in fertility rates.

<sup>3</sup>An exception is Olsen and Farkas (1990). Using a duration model with participation in a program aimed at helping disadvantaged youths on the job market, they find that better economic opportunities accelerate the path to marriage.

having a first child both indirectly (through its effect on cohabitation) and directly. We also show that the links between employment and cohabitation are not exactly the same for older cohorts and for more recent cohorts. In particular, women's access to employment used to be negatively affected by cohabitation, whereas it does not appear to be the case anymore for more recent cohorts.

Abbring and van den Berg's methodology shares common features with Lillard's simultaneous hazard model (Lillard, 1993). This methodology has been used by Lillard and Waite (2000), Aassve et al. (2006), and Niedergesäss (2013) to study the relationship between employment, cohabitation or marriage and fertility. These three papers find a positive association between employment status and the timing of marriage or cohabitation for men, and a negative association for women (except for Aassve et al., 2006 who find a positive association for both genders). They also find no relationship between marriage or cohabitation and transition into employment for men, but they find a negative association for women. Relative to this literature, the main contribution of our paper is to focus on the differential impact of stable and temporary jobs. The proportion of temporary jobs has increased dramatically in most countries over the past decades. One reason for this increase is the idea that flexibility may be a remedy to unemployment, and especially to youth unemployment. Understanding whether temporary jobs have (or not) similar implications as stable jobs for cohabiting trajectories and fertility decisions may shed some light on the indirect consequences of such policies.

The paper is organized as follows. Section 2 focuses on cohorts born in or after 1954 using the French survey *Families and Employers*. This section first describes the survey and the main variables of interest. Section 2 then develops an event study and a timing of events analysis to investigate the links between stable jobs, temporary jobs and cohabiting relationships. This section further develops a second timing of events analysis to include fertility decisions. Section 3 focuses on cohorts born before 1954 using the French survey *Household Budget*. Similarly to Section 2, Section 3 describes the data and develops an event study and a timing of events analysis on employment and cohabiting relationships. Section 4 discusses the policy implications of the estimation results, and Section 5 concludes.

## **2 Stable Jobs, Temporary Jobs, and Cohabiting Relationships**

### **2.1 Data**

To investigate whether stable and temporary jobs have similar implications for family formation, this paper uses the French survey *Families and Employers* – *FE* hereafter – conducted jointly in 2004-2005 by the French National Institute for Demographic Studies (INED) and the French National Institute for

Statistical and Economic Studies (INSEE). This survey provides detailed retrospective information on the work and family history of 9,547 individuals representative of the French population born between 1954 and 1985.

The *FE* survey provides detailed employment calendars where individuals indicate for each year starting from age 18 their employment status. These calendars distinguish year-periods during which individuals had positions that lasted less than 6 months only (hereafter temporary job positions) and year period during which they had at least one job that lasted more than 6 months (hereafter, stable job positions). We use these retrospective information to construct the two following variables:  $t_{sj}$  and  $t_{tj}$ . The variable  $t_{sj}$  records when individuals started their first stable job i.e.,  $t_{sj}$  corresponds to the first year when individuals indicate that they were employed for more than six months, and  $t_{tj}$  records when individuals started their first temporary position i.e.,  $t_{tj}$  corresponds to the first year when individuals indicate that they were employed or unemployed for less than six months<sup>4</sup>.

With respect to family formation, individuals are asked to indicate the year when they started their first cohabiting relationship as well as the months and years of birth of all their children. We use these information to construct the three following variables:  $t_r$ ,  $t_{ch}$  and  $t_{co}$ . The variable  $t_r$  indicates the year when individuals started their first cohabiting relationship,  $t_{ch}$  records the year when they had their first child, and  $t_{co}$  is a proxy for the year of conception of individuals' first child<sup>5</sup>.

Noticeably,  $t_{sj}$  and  $t_{tj}$  are left censored at age 18 and  $t_{sj}$ ,  $t_{tj}$ ,  $t_r$ ,  $t_{ch}$  and  $t_{co}$  are right censored at the time of the survey. These five variables are also interval censored: the survey records during which years the events of interest happened but the exact timings are unknown. Both the event study and the timing of events analysis account for these features.

For control variables in the timing of events analysis, the *FE* survey provides information on whether and when individuals finished their initial schooling, on individuals' highest diploma, on their religious beliefs and on age at residential independence. Additionally, for years 1968 to 2004 we use publicly available information from the National Institute for Statistical and Economic Studies (INSEE) to control for yearly unemployment rates at the national level. For previous years, we use information

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<sup>4</sup>Unfortunately, the *FE* survey does not distinguish between periods when individuals were unemployed for less than six months in-between two long-term statuses (employment, education, inactivity or education/training) from years when individuals were employed for less than six months in-between long-term or short-term employment or unemployment spells. Similarly to Pailhé and Solaz (2012) we consider these unstable positions as temporary jobs.

<sup>5</sup> $t_{co} = t_{ch} - 1$  for children born between January 1<sup>st</sup> and September 30<sup>th</sup> and  $t_{co} = t_{ch}$  for children born between October 1<sup>st</sup> and December 31<sup>st</sup>.

from the Research and Expertise on the World Economy website<sup>6</sup>.

Regarding sample selection, this paper focuses separately on men and women who have completed their initial schooling and have complete information regarding their retrospective calendars (schooling, employment and family). These two samples represent about 93% of the initial sample and Table A1 in the Appendix provides descriptive statistics for these samples. Additionally, the event study is restricted to subsamples of individuals who experienced the event of interest by the time of the survey and after age 18. By contrast, the timing of events analysis includes individuals with right censored information but the no-anticipation assumption requires to drop individuals who experienced the events of interest during the same year. Also, to avoid left censoring the timing of events analysis focuses on individuals who experienced every event of interest after age 18, and the analysis starts at age 18 and ends at the time of the survey or at age 35<sup>7</sup>. Tables A2 and A3 in the Appendix provide descriptive statistics on the subsamples used for the timing of events analysis. Table A4 and A5 in the Appendix show the characteristics of individuals excluded from the timing of events analysis, namely individuals who experienced at least two events during the same year.

The different samples described in Tables A1 to A3 underline that the vast majority of individuals had held a stable job by the time of the survey (89% to 92% for women depending on the specification, and 94% to 96% for men). A sizable proportion of individuals had also held a temporary job by the time of the survey (42% to 50% depending on the specification). Half of the men had entered a first stable job by age 20, half of the women by age 21, and half of the men and women had entered a first temporary job by age 20. Most individuals had also lived in a cohabiting relationship (84% to 90% for women and to 76% to 83% for men) and had a child (67% to 77% for women and 55% to 66% for men). More women than men had lived in a cohabiting relationship and had a child as they entered cohabiting relationships and parenthood younger (about two years before men).

## 2.2 Event Study

This subsection documents sharp changes in individuals' probability to have entered a cohabiting relationship just around the year when they entered their first job, and in particular their first stable job as opposed to their first temporary job.

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<sup>6</sup>The National Institute for Statistical and Economics Studies also provides information on yearly unemployment rates by gender and age groups from the year 1968 onwards. We check that the results are robust to using these more detailed unemployment rates that are not available for previous years.

<sup>7</sup>In the initial sample, for each event, more than 95% of individuals who had experienced the event before the survey had experienced it by age 35.

### 2.2.1 Methodology

Using the subsamples described in Table A1 in the Appendix, we construct a panel where each individual  $i$  is observed every year  $s$  between her year of birth and the year of the survey minus one (the year of the survey is not observed from January to December contrary to other years). With this panel, we define three variables,  $t^{e_x}$  with  $e_x = \{sj, tj, r\}$ , indicating time-distance to event  $e_x$  such that  $t^{e_x} = 0$  for the year during which event  $e_x$  happens (event  $e_x$  being either individuals' first stable job, first temporary job or first cohabiting relationship). For each event  $e_y = \{sj, tj, r\}$  we also define  $Y_{i,s,t}^{e_y}$  which equals one for years after event  $e_y$  happened and equals zero otherwise (including during the year when event  $e_y$  happened). We estimate the following two sets of equations separately on subsamples of men and women for which event  $e_x$  happened between age 18 and the year of the survey minus one:

$$\begin{aligned}
 Y_{i,s,t^{sj}}^r &= \sum_{\substack{j=-5 \\ j \neq 0}}^{10} \alpha_j^{sj,r} \mathbb{1}[j = t^{sj}] + \sum_k \beta_k^{sj,r} \mathbb{1}[k = age_{i,s}] + \sum_l \gamma_l^{sj,r} \mathbb{1}[l = s] + v_{i,s,t}^{sj,r} \\
 Y_{i,s,t^{tj}}^r &= \sum_{\substack{j=-5 \\ j \neq 0}}^{10} \alpha_j^{tj,r} \mathbb{1}[j = t^{tj}] + \sum_k \beta_k^{tj,r} \mathbb{1}[k = age_{i,s}] + \sum_l \gamma_l^{tj,r} \mathbb{1}[l = s] + v_{i,s,t}^{tj,r}
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 Y^s j_{i,s,t^r} &= \sum_{\substack{j=-5 \\ j \neq 0}}^{10} \alpha_j^{r,sj} \mathbb{1}[j = t^r] + \sum_k \beta_k^{r,sj} \mathbb{1}[k = age_{i,s}] + \sum_l \gamma_l^{r,sj} \mathbb{1}[l = s] + v_{i,s,t}^{r,sj} \\
 Y^t j_{i,s,t^r} &= \sum_{\substack{j=-5 \\ j \neq 0}}^{10} \alpha_j^{r,tj} \mathbb{1}[j = t^r] + \sum_k \beta_k^{r,tj} \mathbb{1}[k = age_{i,s}] + \sum_l \gamma_l^{r,tj} \mathbb{1}[l = s] + v_{i,s,t}^{r,tj}
 \end{aligned} \tag{2}$$

Each regression includes a full set of event-year dummies, age dummies and year dummies to control non parametrically for life-cycle trends and time trends, and the event time-distance  $t^{e_x} = 0$  is the reference. Figures 1a to 1d show the parameters of interest  $\alpha_j^{e_x, e_y}$  for each specification estimated separately for men and women. For event  $e_y = r$  the main specifications consider a non-balanced panel of individuals observed between 5 years before their first stable or temporary job and either 2003-2004 or 10 years later to include as many observations as possible. Similarly, for events  $e_y = \{sj, tj\}$  the main specifications consider a non-balanced panel of individuals observed either between 5 years before their first cohabiting relationship or age 18 and either 2003-2004 or 10 years later<sup>8</sup>. Figures A1a to A1d in the Appendix show the results on balanced panels of individuals observed every years between 5 years before event  $e_x$  and 10 years later.

In this setting, identification relies on the assumption that the timing of  $e_x$  is not determined by the

<sup>8</sup> $Y_{i,s,t^{e_x}}^{sj}$ ,  $Y_{i,s,t^{e_x}}^{tj}$  and  $Y_{i,s,t^{e_x}}^r$  are right censored, and  $Y_{i,s,t^{e_x}}^{sj}$  and  $Y_{i,s,t^{e_x}}^{tj}$  are also left censored.

outcome, here the event  $e_y$ . Under this assumption, conditional on age and year, there should be no discontinuity in  $v_{i,s,t}^{e_x, e_y}$  around the year when event  $e_x$  happens and the short-term impact of event  $e_x$  on  $Y_{i,s,t}^{e_y}$  is obtained by comparing  $Y_{i,s,t}^{e_y, e_x=0}$  to  $Y_{i,s,t}^{e_y, e_x=1}$ . At this stage, two points are worth noticing. First, identification of Equations (1) requires that first stable and temporary jobs are not determined by first cohabiting relationships, and identification of Equations (2) requires that first cohabiting relationships are not determined by first stable and temporary jobs. This means that either first jobs and first cohabiting relationships are mutually independent or that only one set of equations is identified. Figures 1a to 1d lend support to the idea that first jobs and first cohabiting relationships are not mutually independent and that only Equations (1) are identified. Second, identification requires that either unobserved characteristics are constant over time or that there are not correlated with the timing of  $e_x$ . If there was another event  $e_{x2}$  whose timing was correlated with  $e_x$  it would bias the results. In particular, if the timing of individuals' first stable job was correlated with the timing of their first temporary job this event study could wrongly find a significant impact of first temporary jobs on first cohabiting relationships that would be driven by individuals' first stable job. The timing of events analysis in the next subsection accounts for those two issues.

### 2.2.2 Results

Figures 1a and 1b show the estimated parameters of interest for Equations (1) ( $\alpha_{j=-5, \dots, 10}^{s,j,r}$  and  $\alpha_{j=-5, \dots, 10}^{t,j,r}$ ) and the corresponding 95% confidence intervals estimated separately for men and women<sup>9</sup>. These figures first show that men's and women's probability to have entered a cohabiting relationship does not vary significantly with respect to the time-distance to first stable or temporary jobs before these events have actually happened. This gives credit to the assumption that first stable and temporary jobs are not determined by first cohabiting relationships. Second, Figures 1a and 1b show that men's and women's probability to have entered a cohabiting relationship increases significantly just after their first stable or temporary job. These figures also show that stable jobs have significantly larger impacts for cohabiting relationships than temporary jobs. For men and women, the probability to have entered a cohabiting relationship is respectively 6.2 and 8.6 percentage points higher once they have started their first stable job, compared to an increase of respectively 1.2 and 3.0 percentage points for temporary jobs.

Figures 1c and 1d show the estimated parameters of interest for Equations (2) ( $\alpha_{j=-5, \dots, 10}^{r,s,j}$  and  $\alpha_{j=-5, \dots, 10}^{r,t,j}$ ). Consistent with Figures 1a and 1b, Figures 1c and 1d show that men's and women's probability to have started a stable job increases significantly with respect to the time-distance to first cohabiting relationships before this event happened. Because individuals are more likely to start a

<sup>9</sup>Standard errors are clustered at the individual level.



cohabiting relationship after their first stable job, the closer they get to their first cohabiting relationship the more likely they are to have already started their stable job. As a result, it is problematic to interpret  $Y_{i,s,t}^{es,j} - Y_{i,s,t}^{sr=0}$  as the impact of cohabitation on stable employment chances. Regarding temporary employment, Figures 1c and 1d do not show much variation in individuals' probability to have entered a temporary job around the time of first cohabiting relationship. This could either reflect independence between both events, or a smaller impact of temporary jobs on cohabitation chances.

Overall, Figures 1a to 1d provide evidence for the existence of a causal link running from stable employment to cohabiting relationships. Figures A1a to A1d in the Appendix show that the results are robust to using a balanced panel for each regression.

The next subsection develops a second identification strategy that enables to estimate the impact of cohabitation on employment even when the timing of cohabitation is endogenous to the timing of employment. This methodology also enables to account for the potential correlation between the timings of first stable and temporary jobs.

## 2.3 Timing of Events Analysis

### 2.3.1 Methodology

To study the links between stable jobs, temporary jobs and cohabiting relationships, this subsection develops a timing of events approach (Abbring and van den Berg, 2003) that accounts for the potential correlation between the three different timings. This analysis focuses on the subsamples of men and women defined in Subsection 2.1 and described in Table A2 in the Appendix. With respect to the event study results, this analysis includes individuals with right-censored information but excludes individuals with simultaneous transitions. Also, to avoid issues related to left-censoring, this analysis focuses on individuals who did not enter a cohabiting relationship before age 18, and the panel starts at age 18 instead of birth<sup>10</sup>.

We define  $\theta_{i,r}$  as individuals' instantaneous probability to enter a first cohabiting relationship,  $\theta_{i,sj}$  as individuals' instantaneous probability to start a first stable job and  $\theta_{i,tj}$  as individuals' instantaneous probability to start a first temporary job<sup>11</sup>. The three hazard rates depend on the duration  $t$  elapsed since age 18 (the initial date), time-constant observed characteristics  $(x_{i,r}, x_{i,sj}, x_{i,tj})$ , time-variant observed

<sup>10</sup>For ending date, we use the minimum of year at age 35 and year of the survey minus one. As mentioned in Subsection 2.1, in the initial sample, for each event more than 95% of individuals who had experienced the event before the survey had experienced it by age 35.

<sup>11</sup>This paper focuses on first jobs and first cohabiting relationships so as to avoid making assumptions regarding the independence between the timings of individuals' several stable jobs, several temporary jobs or several cohabiting relationships.

characteristics  $(x_{i,r,t}, x_{i,sj,t}, x_{i,tj,t})$ , time-constant unobserved characteristics  $(v_{i,r}, v_{i,sj}, v_{i,tj})$ , and the timings of individuals' first stable job  $(t_{i,sj})$ , first temporary job  $(t_{i,tj})$ , and first cohabiting relationship  $(t_{i,r})$ . Hazard rates are assumed to have a standard mixed proportional hazard specification:

$$\begin{aligned}
\theta_{i,r}(t|x_{i,r}, v_{i,r}, t_{i,sj}, t_{i,tj}) &= \lambda_r(t) e^{(\beta_r x_{i,r} + \gamma_r x_{i,r,t} + \delta_{sj}^r \mathbb{1}(t > t_{i,sj}) + \delta_{tj}^r \mathbb{1}(t > t_{i,tj}) + v_{i,r})} \\
\theta_{i,sj}(t|x_{i,sj}, v_{i,sj}, t_{i,r}, t_{i,tj}) &= \lambda_{sj}(t) e^{(\beta_{sj} x_{i,sj} + \gamma_{sj} x_{i,sj,t} + \delta_r^{sj} \mathbb{1}(t > t_{i,r}) + \delta_{tj}^{sj} \mathbb{1}(t > t_{i,tj}) + v_{i,sj})} \\
\theta_{i,tj}(t|x_{i,tj}, \mu_{i,tj}, t_{i,r}, t_{i,sj}) &= \lambda_{tj}(t) e^{(\beta_{tj} x_{i,tj} + \gamma_{tj} x_{i,tj,t} + \delta_r^{tj} \mathbb{1}(t > t_{i,r}) + \delta_{sj}^{tj} \mathbb{1}(t > t_{i,sj}) + v_{i,tj})}
\end{aligned} \tag{3}$$

The main parameters of interest are  $\delta_{sj}^r$ ,  $\delta_{tj}^r$ ,  $\delta_r^{sj}$ , and  $\delta_r^{tj}$ .

The analysis includes schooling, residential independence and yearly unemployment rates as time-variant control variables. For time-constant control variables, each specification uses whether individuals graduated from higher education or whether they graduated from high school only (as opposed to lower diploma), as well as a dummy variable indicating strong religious beliefs. For the baseline hazard rates  $(\lambda_r(t), \lambda_{sj}(t), \text{ and } \lambda_{tj}(t))$  we use piecewise constant functions. Regarding the joint distribution for the unobserved characteristics we assume that they follow a discrete distribution with two points of support and unrestricted mass point locations.

Abbring and van den Berg (2003) show that under the no-anticipation assumption Model (3) enables to sort out causality from selection. Intuitively, the idea is to estimate whether individuals who find their first stable or temporary job later enter their cohabiting relationship as fast afterward as those who had found a first stable or temporary job earlier (and similarly for the impact of first cohabiting relationships on first stable and temporary jobs). As Abbring and van den Berg (2004) underline, whether one transition happens systematically just after another provides evidence that there is a causal link running from the first transition in time to the second, as selection per se would imply a strong correlation between both timings but not a quick succession of events.

Abbring and van den Berg's empirical model is identified under the no-anticipation assumption i.e., under the assumption that individuals either do not know the exact year when their first stable job, temporary job and cohabiting relationship will happen or do not act upon this information more than a few months before the event happens. In our context where the analysis is at the year level and excludes individuals with simultaneous transitions, the effect of event  $e_x$  on event  $e_y$  would not be identified if  $e_x$  was impacting  $e_y$  one year or more before its occurrence (in anticipation). Essentially, the no-anticipation assumption holds if disclosing whether event  $e_x$  will happen during year  $t$  did not change individuals' instantaneous probability to experience event  $e_y$  in year  $t - 1$ . Alternatively, if event  $e_x$  was

postponed from year  $t$  to year  $t + 1$ , it should have no impact on individuals' instantaneous probability to experience event  $e_y$  during  $t - 1$ . Reassuringly, the event study reveals that the probability to have entered a cohabiting relationship is not statistically different two years before the first stable or temporary job compared to one year before. Similarly, Figures 1c and 1d show no jump in the probability to have found a first stable or temporary job one year before the first cohabiting relationship.

In our context the tighter the labor or housing market the more likely it is that the no-anticipation assumption holds. In particular, for younger cohorts facing a high unemployment rate, finding a first stable job the exact year when individuals start to search is less likely than for older cohorts. As such, finding similar results for older and younger cohorts may provide evidence that the results are not driven by anticipatory behaviors. More in general, it seems reasonable to assume that individuals do not anticipate the exact date when they will start their first stable or temporary job or when they will move in with their partner more than a few months in advance or at least do not act upon this information more than a few months in advance as these events are uncertain until housing or work contracts are signed.

As a robustness test, we check that the main results hold when we also exclude individuals who experienced two events during consecutive years to account for transitions happening during different years but with only a few months in-between.

Lastly, Table A4 provides descriptive statistics on individuals with simultaneous transitions. By definition, individuals who experienced simultaneous transitions are more likely to have found a first stable or temporary job and a first cohabiting relationship. Coherently, they are also more educated, less religious and they entered their first cohabiting relationship and had a first child younger<sup>12</sup>.

Identification also requires that observed and unobserved characteristics are independent. This is a common assumption in duration models. The main interest of Abbring and van den Berg's methodology compared to standard Cox duration models with frailty is that this model allows for correlation between the timings of the different events. This feature is also helpful compared to the event study: Abbring and van den Berg's methodology enables to estimate the impact of cohabitation on employment even when the timing of cohabitation is not exogenous to employment.

Lastly, identification requires that unobserved characteristics impacting each transition are constant over time. In other words, the model is identified provided there is no unobserved event that jointly determines the transitions of interest. This is the main reason why we estimate the links between stable jobs, temporary jobs and cohabiting relationships jointly rather than estimating separately the links between stable jobs and cohabiting relationships on the one hand and the links between temporary jobs

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<sup>12</sup>It is problematic to estimate Model (3) for these individuals as we do not know which transition happened first when they happened during the same year.

and cohabiting relationships on the other.

Time is continuous in Model (3) while the *FE* survey provides interval-censored information. Using Monte Carlo simulations Gaure, Røed and Zhang (2007) show that it is feasible to recover the parameters of Model (3) in this context provided that the likelihood function takes into account the discrete nature of the available data. Therefore, we compute the sample likelihood using the discrete-time version of Model (3):

$$\begin{aligned}\theta_{i,r}^D(t_k | x_{i,r}, \nu_{i,r}, t_{i,sj}, t_{i,tj}) &= 1 - e^{-e^{(\beta_r x_{i,r} + \gamma_r x_{i,r,t} + \delta_{sj}^r \mathbb{1}(t > t_{i,sj}) + \delta_{tj}^r \mathbb{1}(t > t_{i,tj}) + \nu_{i,r} + \phi_k^r)}} \\ \theta_{i,sj}^D(t_k | x_{i,sj}, \nu_{i,sj}, t_{i,r}, t_{i,tj}) &= 1 - e^{-e^{(\beta_{sj} x_{i,sj} + \gamma_{sj} x_{i,sj,t} + \delta_r^{sj} \mathbb{1}(t > t_{i,r}) + \delta_{tj}^{sj} \mathbb{1}(t > t_{i,tj}) + \nu_{i,sj} + \phi^s j_k)}} \\ \theta_{i,tj}^D(t_k | x_{i,tj}, \mu_{i,tj}, t_{i,r}, t_{i,sj}) &= 1 - e^{-e^{(\beta_{tj} x_{i,tj} + \gamma_{tj} x_{i,tj,t} + \delta_r^{tj} \mathbb{1}(t > t_{i,r}) + \delta_{sj}^{tj} \mathbb{1}(t > t_{i,sj}) + \nu_{i,tj} + \phi^t j_k)}}\end{aligned}$$

where  $\theta_{i,j}^D$  indicates the instantaneous probability that the event  $j$  happens during interval  $[t_{k-1}, t_k)$ . Also,  $\phi_k^c = \ln \left( \int_{t_{k-1}}^k \lambda_c(t) dt \right)$ ,  $\phi^s j_k = \ln \left( \int_{t_{k-1}}^k \lambda_{sj}(t) dt \right)$ , and  $\phi^t j_k = \ln \left( \int_{t_{k-1}}^k \lambda_{tj}(t) dt \right)$ .

We estimate jointly the parameters of interest using maximum likelihood.

### 2.3.2 Results

Table 1 presents the estimated parameters of interest when estimating Model (3) separately on men and women subsamples.

The upper part of this table shows that first stable jobs have a significant positive impact on the hazard rate of first cohabiting relationships for both men and women. Estimated effects are strong and similar across gender. A first stable job multiplies women's instantaneous probability to enter a first cohabiting relationship by 3.4, and by 3.8 for men. By contrast, first temporary jobs have a smaller impact on women's instantaneous probability to enter a first cohabiting relationship (3 times lower) and no significant impact for men.

The second and third parts of Table 1 show that first cohabiting relationships have a positive impact on men's and women's instantaneous probability to enter a first stable job ( $\times 1.4$  and  $\times 1.5$  respectively), but no no significant impact for temporary jobs. These findings are consistent with Figures 1a and 1b which show an increase in men's and women's probability to have entered a stable job after cohabitation and no variation for temporary jobs.

Lastly, this table shows that temporary jobs have a significant positive impact for entry into stable jobs while stable jobs decrease individuals' instantaneous probability to enter a temporary job. This is consistent with the idea that temporary jobs may provide a first step towards stable employment, and that individuals with stable employment usually do not switch back to unstable positions.

Table A6 in the Appendix show the detailed results for Model (3). Unsurprisingly, this table shows that individuals are more likely to enter a first stable or temporary job once they are no longer students. Schooling also decreases women's probability to start a cohabiting relationship but not men's, and non-residential independence decreases men's probability of cohabitation but not women's.

Additionally, Table A7 shows the estimated distributions for unobserved characteristics impacting first cohabiting relationships, first stable jobs and first temporary jobs (respectively  $N_r$ ,  $N_{sj}$ , and  $N_{tj}$ ). This table shows that the timings of this three events are indeed correlated. This explains why estimations that do not account for these correlations find biased estimates (see Table A8).

As a robustness check, Table A9 in the Appendix show the parameters of interest for Model (3) when controlling for yearly unemployment rates by age groups and gender. Comfortingly, the results with this specification are very similar to the results when estimating Model (3) with aggregated yearly unemployment rates (Table 1).

Regarding the no-anticipation assumption, Table A10 in the Appendix shows the results on subsamples of men and women who did not experience their first stable job, temporary job or cohabiting relationship during consecutive years. This table also confirms that stable employment has a stronger positive impact for cohabitation than temporary employment.

## **2.4 Stable Jobs, Temporary Jobs, Cohabiting Relationships and Fertility**

The event study and timing of events results suggest that stable employment has important implications for cohabiting relationships. As cohabiting relationships are often a first step before childbirth, stable employment is likely to also have implications for fertility decisions. It is however an open question as to whether employment impacts fertility only through cohabiting relationships or also directly. This subsection develops a timing of event analysis to investigate the links between stable jobs, temporary jobs, cohabiting relationships and childbirths<sup>13</sup>.

To study the links between stable jobs, temporary jobs, cohabiting relationships and childbirths, we

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<sup>13</sup>Figures A2a to A2b in the Appendix suggest that nor the timing of the first stable job is exogenous to the first child or the timing of the first child is exogenous to the first job for women. In this context, it would be difficult to interpret the results of an event study

estimate jointly a discrete version of the following model on the samples described in Table A3:

$$\begin{aligned}
\theta_{i,r}(t|x_{i,r}, \nu_{i,r}, t_{i,sj}, t_{i,tj}, t_{co}) &= \lambda_r(t) e^{(\beta_r x_{i,r} + \gamma_r x_{i,r,t} + \delta_{sj}^r \mathbb{1}(t > t_{i,sj}) + \delta_{tj}^r \mathbb{1}(t > t_{i,tj}) + \delta_{co}^r \mathbb{1}(t > t_{i,co}) + \nu_{i,r})} \\
\theta_{i,co}(t|x_{i,co}, \nu_{i,co}, t_{i,sj}, t_{i,tj}, t_r) &= \lambda_{co}(t) e^{(\beta_{co} x_{i,co} + \gamma_{co} x_{i,co,t} + \delta_{sj}^{co} \mathbb{1}(t > t_{i,sj}) + \delta_{tj}^{co} \mathbb{1}(t > t_{i,tj}) + \delta_{r}^{co} \mathbb{1}(t > t_{i,r}) + \nu_{i,co})} \\
\theta_{i,sj}(t|x_{i,sj}, \nu_{i,sj}, t_{i,r}, t_{i,tj}, t_{co}) &= \lambda_{sj}(t) e^{(\beta_{sj} x_{i,sj} + \gamma_{sj} x_{i,sj,t} + \delta_r^{sj} \mathbb{1}(t > t_{i,r}) + \delta_{tj}^{sj} \mathbb{1}(t > t_{i,tj}) + \delta_{co}^{sj} \mathbb{1}(t > t_{i,co}) + \nu_{i,sj})} \\
\theta_{i,tj}(t|x_{i,tj}, \mu_{i,tj}, t_{i,r}, t_{i,sj}, t_{co}) &= \lambda_{tj}(t) e^{(\beta_{tj} x_{i,tj} + \gamma_{tj} x_{i,tj,t} + \delta_r^{tj} \mathbb{1}(t > t_{i,r}) + \delta_{sj}^{tj} \mathbb{1}(t > t_{i,sj}) + \delta_{co}^{tj} \mathbb{1}(t > t_{i,co}) + \nu_{i,tj})}
\end{aligned} \tag{4}$$

where  $t_{co}$  is a proxy for the year of conception of individuals' first child<sup>14</sup>. Here, we use year of conception instead of year of birth for the first child as it is likely that individuals know rather precisely when they will become parents more than a few months in advance and act upon this information.

Table 2 shows the estimated parameters of interest for Model (4) estimated separately for men and women.

This table shows that first stable jobs have an indirect impact on men's and women's probability to have a first child as they impact positively cohabiting relationships and cohabiting relationships impact positively fertility decisions. This table further shows that stable jobs also have a strong direct positive impact on men's and women's instantaneous probability to have a first child ( $\times 3.3$  for women and  $\times 2.0$  for men). By contrast, first temporary jobs have a smaller indirect impact on fertility decisions (about 3 times smaller) and they do not have any direct positive impact. For women, first temporary jobs even have a small direct negative impact as they divide women's instantaneous probability to have a first child by 1.2.

Noticeably, Table 2 stresses a significant difference across gender regarding the impact of childbirth on employment. While first children have no impact on men's employment chances they decrease women's instantaneous probability to start a first stable job. This is consistent with the literature on gender and child penalty (see, e.g., Kleven, Landais and Sogaard (2018)).

Table A11 and A12 in the Appendix provide the detailed results for Model (4). Additionally, Table A13 show the results when estimating Model (4) on subsamples of men and women who did not enter their first stable job, first temporary job, first cohabiting relationship or had a first child during consecutive years. This table also shows that stable employment has both a direct and an indirect impact on fertility decisions. In both cases and for both gender stable employment has a stronger impact

<sup>14</sup> $t_{co} = t_{ch} - 1$  for children born between January 1<sup>st</sup> and September 30<sup>th</sup> and  $t_{co} = t_{ch}$  for children born between October 1<sup>st</sup> and December 31<sup>st</sup>.

than temporary employment.

The next section investigates whether the impact of employment on cohabitation and conversely were similar across gender for cohorts born before the 1950s.

### **3 Gender, Employment and Cohabiting Relationships before the 1950s**

#### **3.1 Data**

To investigate whether the links between employment and family formation were similar across gender for older cohorts, this paper uses a second survey: *Household Budget – HB* hereafter. This survey was conducted in 2000-2001 by INSEE and also provides retrospective information on cohabiting relationships, fertility events, and labor market events for 17,039 individuals born between 1900 and 1983.

Regarding labor market events, in the *HB* survey individuals indicate their employment status in the year they finished their initial schooling as well as each subsequent change to an employment status that lasted at least one year. For initial and subsequent employment statuses this survey distinguishes between eleven different statuses. In particular, the *HB* survey distinguishes permanent or temporary contracts of more than a year from three more unstable situations: interim jobs, internships, and sequences of short-term statuses (interim jobs, unemployment, temporary contracts...). As a consequence, with this survey the variable  $t_{s,j}$  corresponds to the first year when individuals indicate that they were employed with a permanent or temporary contract for more than a year and  $t_{i,j}$  corresponds to the first year when individuals record that they spend more than a year holding an interim job, doing an internship, or switching from unemployment to interim jobs, internships or temporary contracts of less than a year. Contrary to the *FE* survey, the definition of stable and temporary jobs are more restrictive. In the *FE* survey stable jobs correspond to jobs that lasted more than six months while they correspond to jobs that lasted at least one year in the *HB* survey, and to be recorded as a period of temporary employment individuals' interim jobs or internships have to last more than a year or they have to spend more than a year switching from unemployment to interim jobs or internships or temporary contracts of less than a year. By contrast, the *FE* survey records every period when individuals held a job even when it lasted only a few months between periods of long-term employment or unemployment.

In the *HB* survey cohabiting individuals are asked to indicate the year when their current cohabiting relationship started as well as the year when their previous cohabiting relationship started (if applicable).

Individuals who were not in a cohabiting relationship at the time of the survey are asked to indicate the year when their last cohabiting relationship started (if applicable). Consequently, with this survey  $t_r$  records years when individuals started their previous or last cohabiting relationship. Using the *FE* survey – which provides information about individuals’ total number of cohabiting relationships – we estimate that in the *HB* survey  $t_r$  indicates the year when individuals’ started their first cohabiting relationship in at least 94% of cases. In the *HB* survey about 46% of individuals are born between 1954 and 1983. In this context, it is possible to compare the results obtained with the *FE* survey with results for cohorts born in or after 1954 in the *HB* survey to assess the robustness of the information provided in the *HB* survey.

Regarding fertility events, in the *HB* survey individuals are only asked about their children’s years of birth. As a consequence,  $t_{co}$  is not defined in the *HB* survey.

For control variables, the *HB* survey provides information on individuals’ highest diploma and on their fathers’ occupation, and the sample selection is the same as in the previous section except for left censoring. In the *HB* survey,  $t_{sj}$  and  $t_{tj}$  are left censored at school leaving age. We also use the same information as in the previous section to control for yearly unemployment rates.

Table A14 in the Appendix provides information on the main samples from which the different subsamples for the event study are drawn, and Table A15 in the Appendix provides information on the subsamples for the timing of events analysis. Columns 3 and 4 in Tables A14 and A15 compared to columns 1 and 2 in Tables A1 and A2 confirm that the two surveys provide comparable information. The only noticeable difference concerns the definition of temporary jobs. As mentioned above, the definition of temporary jobs is more restrictive in the *HB* survey.

Additionally, Table A15 provides information on the sample of individuals excluded from the timing of events analysis, namely individuals who entered their first stable job and their first cohabiting relationship during the same year.

The event study and the timing of events analysis in the following subsections focus on older cohorts and provides robustness checks by comparing the results obtained with the *FE* survey to results obtained with younger cohorts from the *HB* survey. Older and younger cohorts are therefore defined relative to year 1954.



### 3.2 Event Study

This subsection develops the same methodology as Subsection 2.2. The only difference concerns left-censoring: in the *HB* survey,  $Y_{i,s,t}^{sj}$  and  $Y_{i,s,t}^{tj}$  are left censored at school leaving age instead of age 18. Consequently, the analysis focuses on individuals who have experienced the events  $e_x$  between school leaving age and 1999-2000, and for Equations (2) individuals' first observation is either five years before their cohabiting relationship or the year they finished schooling.

For men born before 1954, Figures 2b and 2d exhibit similar patterns as Figures 1a and 1b: men's probability to have entered a cohabiting relationship is flat before their first stable or temporary job and increases significantly just after the first stable job but not after the first temporary job. Consistently, they are also more likely to have started a stable job as they get closer to their first cohabiting relationship, while their probability to have started a temporary job is flat around the time of first cohabiting relationship.

For women born before 1954, Figures 2a and 2c exhibit differences with respect to either Figures 1a and 1c or Figures 2b and 2d. For older cohorts of women, first stable and temporary jobs have a similar and very small impact on the probability to have entered a cohabiting relationship. In particular, the impact of a first stable job is significantly lower for women born before 1954 than for men born before 1954, while this impact is similar if not higher for women born in or after 1954 compared to men born in or after 1954 in the *FE* survey. Figure 2c also shows that women's probability to have started a stable job is quite flat before their first cohabiting relationship, and starts decreasing afterward.

Overall, the event study suggests that while the impact of finding a stable job on cohabitation is about the same for men and women in younger cohorts, it used to be stronger for men than women in older cohorts. This analysis also suggests that the employment chances of women in older cohorts used to be negatively impacted by cohabitation.

Figures A3a to A3c in the Appendix compare the results obtained on younger cohorts from the *HB* survey with results obtained with the *FE* survey. These figures suggest that the gender differences obtained with older cohorts from the *HB* survey are not driven by differences in the definition of first stable or temporary jobs or first cohabiting relationships.

### 3.3 Timing of Events Analysis

Table 3 presents the results when estimating the following model on older cohorts from the *HB* survey<sup>15</sup>:

$$\begin{aligned}\theta_{i,r}(t|x_{i,r}, \nu_{i,r}, t_{i,sj}, t_{i,tj}) &= \lambda_r(t) e^{(\beta_r x_{i,r} + \gamma_r x_{i,r,t} + \delta_{sj}^r \mathbb{1}(t > t_{i,sj}) + \nu_{i,r})} \\ \theta_{i,sj}(t|x_{i,sj}, \nu_{i,sj}, t_{i,r}, t_{i,tj}) &= \lambda_{sj}(t) e^{(\beta_{sj} x_{i,sj} + \gamma_{sj} x_{i,sj,t} + \delta_r^{sj} \mathbb{1}(t > t_{i,r}) + \nu_{i,sj})}\end{aligned}\quad (5)$$

Similarly to Table 1, Table 3 shows that first stable jobs have a significant positive impact on cohabitation. This table also shows that first stable jobs used to have a significantly stronger impact on cohabitation for men than women. For cohorts born before 1954, first stable jobs multiplies the instantaneous probability to enter a first cohabiting relationship by 2.7 for men and by 1.8 for women. By contrast, Table 1 does not show a similar gender difference for the impact of stable employment on cohabiting relationships. Importantly, Table A17 in the Appendix replicates the same analysis on younger cohorts from the *HB* survey and does not show either a smaller impact of stable jobs on cohabitation for women compared to men. Additionally, Table A18 replicates the three-events analysis on younger cohorts from the *BF* survey and also shows a similar impact of employment on cohabitation across gender.

Table 3 further shows that cohabitation used to have different implications by gender on stable employment. For cohort born before 1954, cohabiting relationships decreased women's employment chances. For younger cohorts, Table 1 reveals no such gender differences for the impact of cohabiting relationships on stable employment.

Table A19 and A20 in the Appendix present the detailed results for Model (5) estimated on older cohorts from the *HB* survey.

Regarding the no-anticipation assumption, Table A21 in the Appendix show the results when estimating Model (5) on subsamples of men and women who did not enter their first stable job and their first cohabiting relationship during consecutive years. Comfortingly, this table also shows a significant positive impact of stable employment for cohabiting relationships. Additionally, Table 3 show a similar pattern of results as Table 1 or Table A17 for men, while it has become more uncertain to succeed in entering stable employment the exact year when individuals start looking for a job. This gives some credit to the idea that the results are not driven by anticipatory behaviors.

This set of results underlines that stable employment used to have a stronger impact on cohabiting relationships for men than women, and that women's employment chances used to be negatively impacted by cohabitation. These gender differences seem to have reduced: for cohorts born in or after 1954

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<sup>15</sup>As very few individuals born before 1954 held a temporary position, it is difficult to estimate the impact of these positions on the hazard rate of a first cohabiting relationship and conversely.

Section 2 finds no gender differences for the links between employment and cohabitation. Nevertheless, Subsection 2.4 underlines that the links between employment and fertility are still different across gender for younger cohorts. Unfortunately, the *HB* survey does not enable to investigate whether these gender differences were more pronounced for older cohorts<sup>16</sup>.

## 4 Discussion

Men and women born in the early seventies entered their first cohabiting relationship and had their first child older than cohorts born in the mid-fifties. In the samples used for the timing of events analysis, women and men entered their first cohabiting relationship respectively 0.93 years and 0.66 years later on average than women and men born in the mid-fifties, and they had their first child 1.50 and 1.15 years later. One commonly advanced explanation for these delays would be changes in social norms which culminated in May '68 and had major legal consequences with – for example – the legalization of the birth-control pill in 1967 and of abortion in 1975. As a consequence, men's and women's demand for education also increased resulting in delays in school leaving age. In our working samples, women and men born in the early seventies finished initial schooling about 1.6 years later than women and men born in the mid-fifties. Additionally, the proportion of women holding a higher education degree increased by about 10 percentage points between cohorts born in the mid-fifties and cohorts born in the early seventies, and by about 8 percentage points for men.

In this section, we study to which extent the increasing difficulties to enter stable employment also plays a role in explaining delays in family formation. In our working samples, for cohorts born in the early seventies compared to cohorts born in the mid-fifties, the mean duration between school leaving age and age at first stable job has increased by 0.56 years on average for women and men holding a high school degree. For women and men with lower education attainments, this increase reaches 0.66 years. By contrast, individuals with a higher education degree only spend about 0.06 years longer searching for a first stable job. This delayed entry into stable employment are likely driven by increases in unemployment rates (+ 6.2 percentage points on average) and by the rise of temporary contracts among young workers. In our working samples, about 25% of men and women born in the mid-fifties had held a temporary position by age 30 compared to 50% for men and women born in the early seventies.

We use the point estimates in Tables A6 and A11 to document the consequences of labor market entry conditions for family formation. First, we compute expected age at first cohabitation and at first child

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<sup>16</sup>The *HB* survey does not provide children's months of birth to compute their time of conception, and using children's year of birth would likely violate the no-anticipation assumption.

for average men and women born in the mid-fifties. In a second step, we compute expected age at first cohabitation and at first child for similar men and women in terms of schooling length and achievements, residential independence or religious beliefs, but different in terms of labor market entry conditions. For each gender and education group, we replace the average duration between school leaving age and age at first stable or temporary job by averages obtained for cohorts born in the early seventies. These computations yield an increase in age at first cohabitation of about 0.16 years for women and 0.24 years for men, and an increase in age at first child of about 0.73 years for women and 0.36 years for men.

Compared to actual increases, this analysis therefore suggests that the increases in unemployment and in temporary labor contract explain about 17% of the increase in average age at first cohabiting relationship for women and about 36% for men. Similarly, we estimate that the increase in unemployment rates and in temporary labor contracts explains about 49% of the increase in age at first child for women, and about 31% for men.

For policy implications, an important question is whether these delays in family formation result in a decreased total fertility. Anecdotally, we find that men and women who found their first stable job after age 30 are about 15 percentage points less likely to have a child at the time of the survey, but this estimate likely suffers from selection biases. However, if delayed family formation had no impact for completed fertility, it would likely decrease birth spacings and Buckles and Munnich (2012) found a negative impact of shorter birth spacings for children's educational outcomes.

## 5 Conclusion

This paper develops an event study and a timing of events analysis to investigate the links between stable employment, temporary employment and cohabiting relationships.

These analyses reveal that the impact of employment on cohabiting relationships depends on whether the job position under consideration is stable or not. First stable jobs multiplies men's and women's instantaneous probability to enter a first cohabiting relationship by respectively 3.8 and 3.4. By comparison, the impact of first temporary jobs is much smaller ( $\times 1.1$  for women and no significant impact for men).

Secondly, this paper shows that stable jobs indirectly impact fertility decisions through cohabiting relationships but also have a direct impact. First stable jobs direct multiplicative impact on men's and women's instantaneous probability to have a first child is respectively  $\times 2.0$  and  $\times 3.3$ . By contrast, temporary jobs have smaller indirect impacts and no direct impact for fertility decisions. This analysis also reveals that childbirth has different implications by gender for entry into stable employment: a first child decreases women's stable employment chances but not men's.

Lastly, this paper finds that the links between employment and cohabiting relationships used to be different across gender. For cohorts born before 1954, first stable jobs had a stronger impact on cohabiting relationships for men than women and women's employment chances used to be negatively impacted by cohabitation.

More research is needed to properly assess why stable employment impacts family formation differently than temporary employment and in particular to assess to which extent the housing market plays a role for our results.

All in all, the results reported in this paper suggest that the increasing difficulties to enter the labor market with a permanent contract plays an important role in addition to changes in social norms or in schooling attainments to explain the delays in family formation observed over the past decades. We estimate that the rise in youth unemployment and in the share of temporary contracts among young workers explains about 25% of the increase in average age at first cohabiting relationship and about 40% of the delays in fertility decisions.

As temporary jobs do not have similar implications as stable jobs for cohabiting relationships and fertility decisions, this paper suggests that policies favoring temporary jobs at the expense of stable jobs may incidentally delay individuals' cohabiting relationships and fertility decisions.

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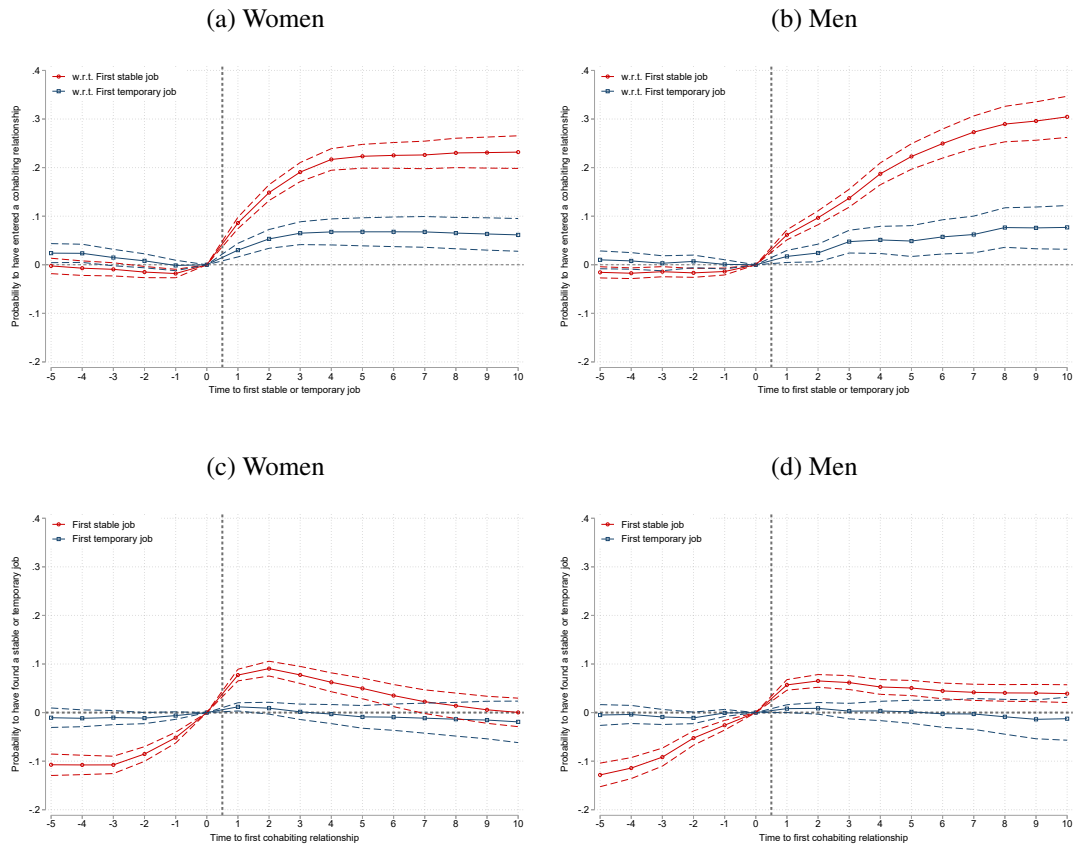


Figure 1 – First stable job, first temporary job and first cohabiting relationship

Note: The figures refer to the samples of men and women from the *FE* survey who completed initial schooling before the survey and experienced the event used for the horizontal axis between age 18 and 2003 or 2004. Figures 1a and 1b show the event time coefficients estimated for Equations (1), and Figures 1c and 1d show the event time coefficients estimated for Equations (2). Dotted lines represent 95% confidence intervals computed with robust standard errors clustered at the individual level.



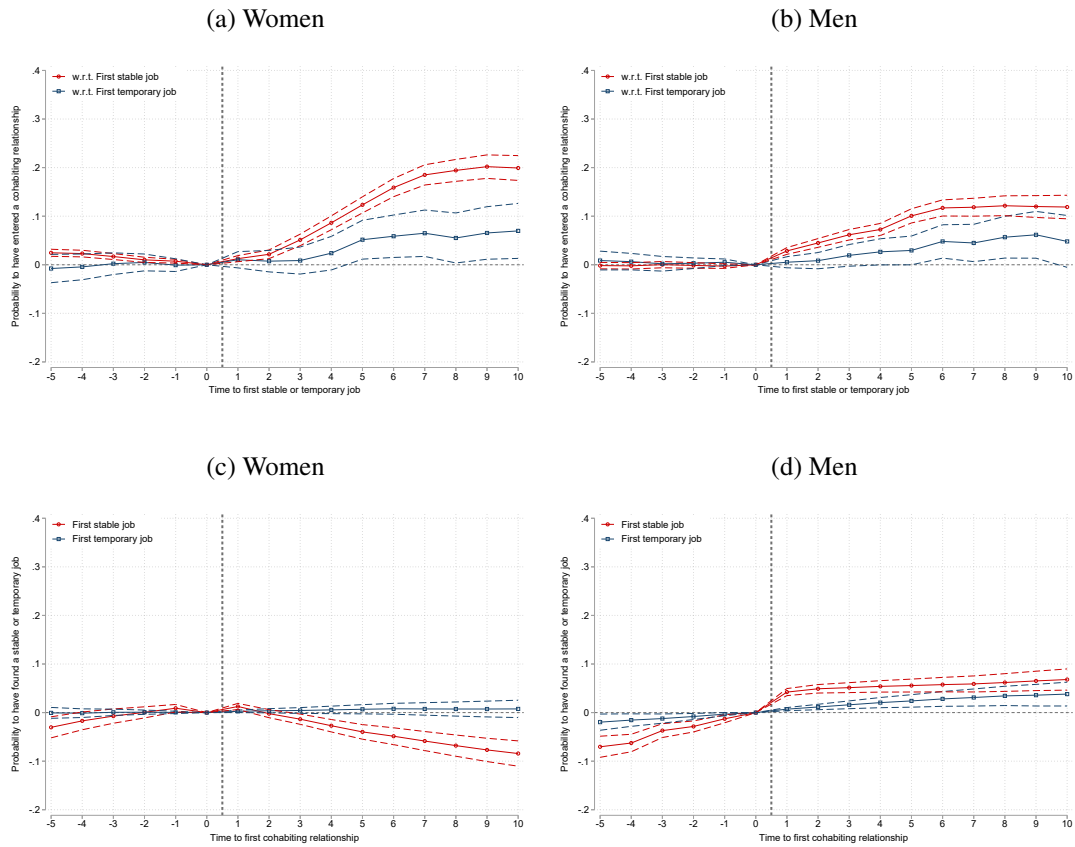


Figure 2 – First stable job, first temporary job and first cohabiting relationship – Older cohorts

Note: The figures refer to the samples of men and women from the *HB* survey born before 1954 who completed initial schooling before the survey and experienced the event used for the horizontal axis between school leaving age and 1999 or 2000. Figures 2a and 2b show the event time coefficients estimated for Equations (1), and Figures 2c and 2d show the event time coefficients estimated for Equations (2). Dotted lines represent 95% confidence intervals computed with robust standard errors clustered at the individual level.

Table 1 – Timing of events analysis — Model (3)

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.213*** (0.075)	1.327*** (0.084)
First temporary job	0.133*** (0.047)	0.027 (0.045)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.409*** (0.093)	0.320*** (0.089)
First temporary job	0.388*** (0.065)	0.191*** (0.064)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	0.086 (0.106)	0.076 (0.116)
First stable job	-0.773*** (0.086)	-0.769*** (0.101)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	3551	3495
Sample log-likelihood	-21241.8	-19842.8

Note: The table refers to the samples of men and women from the *FE* survey who finished initial schooling before the survey, did not start their first stable job, their first temporary job or their first cohabiting relationship during the same year, and experienced each event either between age 18 and the minimum of year at age 35 and 2003-2004 or never experienced it. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table 2 – Timing of events analysis — Model (4)

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.193*** (0.081)	1.171*** (0.077)
First temporary job	0.131*** (0.050)	0.151** (0.061)
First child	0.273*** (0.102)	2.647*** (0.215)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first child</i>		
First stable job	1.191*** (0.156)	0.703*** (0.139)
First temporary job	-0.152*** (0.058)	-0.105 (0.078)
First cohabiting relationship	2.578*** (0.098)	3.286*** (0.118)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.392*** (0.094)	0.181** (0.089)
First child	-0.666*** (0.127)	-0.201 (0.182)
First temporary job	0.398*** (0.075)	0.145** (0.065)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	0.012 (0.120)	0.083 (0.128)
First child	-0.201 (0.124)	-0.079 (0.152)
First stable job	-0.822*** (0.105)	-0.786*** (0.101)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	3018	3148
Sample log-likelihood	-23334.7	-22739.6

Note: The table refers to the samples of men and women from the *FE* survey who finished initial schooling before the survey, did not start their first stable job, their first temporary job, their first cohabiting relationship or conceive their first child during the same year, and experienced each event either between age 18 and the minimum of year at age 35 and 2003-2004 or never experienced it. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship or a first fertility event and the impact of a first cohabiting relationship or a first fertility event on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses. \* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table 3 – Timing of events analysis — Model (5) — Older cohorts

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	0.564*** (0.049)	0.976*** (0.071)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	-1.198*** (0.119)	0.748*** (0.141)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	4401	3870
Sample log-likelihood	-17952.6	-16830.2

Note: The table refers to the samples of men and women from the *HB* survey born before 1954 who finished initial schooling before the survey, did not start their first stable job and their first cohabiting relationship during the same year, and experienced each event either between schooling age and the minimum of 20 years later and 1999-2000 or never experienced it. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

# Appendix

Table A1 – Descriptive Statistics

	Women (1)	Men (2)
Stable employment	0.92 [0.28]	0.96 [0.21]
Med age at first stable job	21 [3.62]	20 [2.99]
Temporary employment	0.50 [0.50]	0.49 [0.50]
Med. age at first temp. job	20 [5.31]	20 [4.72]
Cohabiting relationship	0.90 [0.30]	0.83 [0.38]
Med. age at first cohabiting relationship	22 [3.78]	24 [3.97]
Children	0.77 [0.42]	0.66 [0.48]
Med. age at first child	24 [4.42]	27 [4.51]
Residential independence	0.96 [0.21]	0.90 [0.30]
Med. age at residential independence	21 [3.34]	23 [3.82]
Med. school leaving age	19 [3.15]	19 [3.32]
Higher education	0.33 [0.47]	0.28 [0.45]
Secondary education	0.18 [0.39]	0.16 [0.36]
Strong religious beliefs	0.30 [0.46]	0.21 [0.41]
<i>N</i>	4707	4156

Note: The table refers to the samples of men and women from the *FE* survey who finished initial schooling before the survey. The first column refers to the subsample of women and the second column to the subsample of men. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 indicates the proportion of individuals who no longer lived with their parents at the time of the survey, and row 10 indicates the median age at residential independence. Row 11 gives the median school leaving age. Row 12 shows the proportion of men and women who graduated from higher education and row 13 from high school. Row 14 shows the proportion of individuals who indicated strong religious beliefs. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A2 – Descriptive Statistics — Timing of events analysis — Model (3)

	Women (1)	Men (2)
Stable employment	0.89 [0.31]	0.95 [0.22]
Med age at first stable job	21 [3.25]	20 [2.96]
Temporary employment	0.43 [0.49]	0.42 [0.49]
Med. age at first temp. job	20 [4.26]	20 [3.75]
Cohabiting relationship	0.86 [0.35]	0.79 [0.41]
Med. age at first cohabiting relationship	22 [3.43]	24 [3.44]
Children	0.72 [0.45]	0.60 [0.49]
Med. age at first child	25 [3.95]	27 [3.62]
Residential independence	0.94 [0.23]	0.89 [0.31]
Med. age at residential independence	21 [3.44]	23 [3.92]
Med. school leaving age	19 [3.19]	19 [3.37]
Higher education	0.33 [0.47]	0.26 [0.44]
Secondary education	0.18 [0.38]	0.15 [0.36]
Strong religious beliefs	0.31 [0.46]	0.22 [0.41]
<i>N</i>	3551	3495

Note: The table refers to the same samples as Table 1. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 indicates the proportion of individuals who no longer lived with their parents at the time of the survey, and row 10 indicates the median age at residential independence. Row 11 gives the median school leaving age. Row 12 shows the proportion of men and women who graduated from higher education and row 13 from high school. Row 14 shows the proportion of individuals who indicated strong religious beliefs. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A3 – Descriptive Statistics — Timing of events analysis — Model (4)

	Women (1)	Men (2)
Stable employment	0.90 [0.30]	0.94 [0.23]
Med age at first stable job	21 [3.17]	20 [2.94]
Temporary employment	0.43 [0.49]	0.43 [0.50]
Med. age at first temp. job	20 [4.10]	20 [3.66]
Cohabiting relationship	0.84 [0.37]	0.76 [0.43]
Med. age at first cohabiting relationship	22 [3.39]	24 [3.42]
Children	0.67 [0.47]	0.55 [0.50]
Med. age at first child	25 [3.66]	27 [3.34]
Residential independence	0.94 [0.24]	0.88 [0.32]
Med. age at residential independence	22 [3.46]	23 [3.97]
Med. school leaving age	20 [3.17]	19 [3.34]
Higher education	0.36 [0.48]	0.27 [0.45]
Secondary education	0.19 [0.39]	0.16 [0.36]
Strong religious beliefs	0.29 [0.46]	0.21 [0.41]
<i>N</i>	3018	3148

Note: The table refers to the same samples as Table 2. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 indicates the proportion of individuals who no longer lived with their parents at the time of the survey, and row 10 indicates the median age at residential independence. Row 11 gives the median school leaving age. Row 12 shows the proportion of men and women who graduated from higher education and row 13 from high school. Row 14 shows the proportion of individuals who indicated strong religious beliefs. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A4 – Descriptive Statistics — Timing of events analysis — Individuals with simultaneous transitions — Model (3)

	Women (1)	Men (2)
Stable employment	0.98 [0.13]	0.99 [0.09]
Med age at first stable job	21 [2.58]	21 [2.69]
Temporary employment	0.66 [0.47]	0.73 [0.44]
Med. age at first temp. job	20 [3.31]	20 [3.12]
Cohabiting relationship	0.98 [0.15]	0.94 [0.23]
Med. age at first cohabiting relationship	21 [2.50]	22 [2.92]
Children	0.80 [0.40]	0.69 [0.46]
Med. age at first child	24 [3.68]	25 [3.68]
Residential independence	0.99 [0.10]	0.96 [0.20]
Med. age at residential independence	20 [2.44]	22 [2.95]
Med. school leaving age	20 [2.81]	20 [3.00]
Higher education	0.36 [0.48]	0.36 [0.48]
Secondary education	0.22 [0.41]	0.17 [0.38]
Strong religious beliefs	0.27 [0.44]	0.19 [0.39]
<i>N</i>	997	645

Note: The table refers to similar samples as Table 1 restricted to individuals who experienced at least two events during the same year. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 indicates the proportion of individuals who no longer lived with their parents at the time of the survey, and row 10 indicates the median age at residential independence. Row 11 gives the median school leaving age. Row 12 shows the proportion of men and women who graduated from higher education and row 13 from high school. Row 14 shows the proportion of individuals who indicated strong religious beliefs. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.



Table A5 – Descriptive Statistics — Timing of events analysis — Individuals with simultaneous transitions — Model (4)

	Women (1)	Men (2)
Stable employment	0.94 [0.24]	0.99 [0.09]
Med age at first stable job	21 [2.94]	21 [2.86]
Temporary employment	0.59 [0.49]	0.61 [0.49]
Med. age at first temp. job	20 [3.79]	20 [3.51]
Cohabiting relationship	0.98 [0.14]	0.96 [0.19]
Med. age at first cohabiting relationship	21 [2.93]	22 [3.29]
Children	0.86 [0.35]	0.79 [0.40]
Med. age at first child	23 [3.72]	25 [3.65]
Residential independence	0.99 [0.10]	0.97 [0.17]
Med. age at residential independence	21 [2.74]	22 [3.16]
Med. school leaving age	19 [2.96]	19 [3.26]
Higher education	0.30 [0.46]	0.30 [0.46]
Secondary education	0.19 [0.39]	0.16 [0.36]
Strong religious beliefs	0.30 [0.46]	0.22 [0.42]
<i>N</i>	1496	980

Note: The table refers to similar samples as Table 2 restricted to individuals who experienced at least two events during the same year. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 indicates the proportion of individuals who no longer lived with their parents at the time of the survey, and row 10 indicates the median age at residential independence. Row 11 gives the median school leaving age. Row 12 shows the proportion of men and women who graduated from higher education and row 13 from high school. Row 14 shows the proportion of individuals who indicated strong religious beliefs. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A6 – Timing of events analysis — Model (3) — Detailed results

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.213*** (0.075)	1.327*** (0.084)
First temporary job	0.133*** (0.047)	0.027 (0.045)
Schooling	-0.213*** (0.065)	-0.054 (0.080)
Non residential independence	-0.002 (0.047)	-0.242*** (0.044)
Higher education	0.102* (0.052)	0.156*** (0.053)
Secondary education	0.022 (0.055)	-0.053 (0.060)
Strong religious beliefs	-0.049 (0.042)	-0.166*** (0.048)
Unemployment rate	-0.005 (0.010)	0.008 (0.011)
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.409*** (0.093)	0.320*** (0.089)
First temporary job	0.388*** (0.065)	0.191*** (0.064)
Schooling	-1.575*** (0.054)	-1.307*** (0.045)
Non residential independence	0.072 (0.078)	-0.140** (0.068)
Higher education	-1.008*** (0.083)	-1.197*** (0.071)
Secondary education	-0.197** (0.082)	-0.556*** (0.070)
Strong religious beliefs	-0.096* (0.053)	-0.168*** (0.052)
Unemployment rate	-0.127*** (0.011)	-0.089*** (0.009)
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	0.086 (0.106)	0.076 (0.116)
First stable job	-0.773*** (0.086)	-0.769*** (0.101)
Schooling	-0.146* (0.086)	-0.276*** (0.079)
Non residential independence	0.186* (0.104)	0.102 (0.103)
Higher education	0.393*** (0.076)	0.180** (0.078)
Secondary education	0.361*** (0.082)	0.245*** (0.081)
Strong religious beliefs	-0.086 (0.061)	-0.130* (0.068)
Unemployment rate	0.107*** (0.014)	0.110*** (0.013)
<i>N</i>	3551	3495
Sample log-likelihood	-21241.8	-19842.8
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2

Note: The table refers to the same samples as Table 1. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A7 – Unobserved heterogeneity distribution — Model (3)

	Women	Men
$p_{111}$	0.793	0.013
$p_{112}$	0.000	0.049
$p_{121}$	0.037	0.910
$p_{122}$	0.030	0.000
$p_{211}$	0.000	0.002
$p_{212}$	0.000	0.026
$p_{221}$	0.128	0.000
$p_{222}$	0.012	0.000
$v_{i,r}^1$	-3.001*** (0.118)	-3.918*** (0.141)
$v_{i,r}^2$	-1.387*** (0.135)	-1.871*** (0.294)
$v_{i,js}^1$	1.280*** (0.124)	-1.801*** (0.160)
$v_{i,js}^2$	-2.494*** (0.154)	1.134*** (0.101)
$v_{i,tj}^1$	-3.160*** (0.178)	-2.937*** (0.167)
$v_{i,tj}^2$	-0.738*** (0.286)	-1.429*** (0.232)
$corr(N_r, N_{sj})$	-0.790	-0.534
$corr(N_r, N_{tj})$	0.092	0.552
$corr(N_{sj}, N_{tj})$	-0.411	-0.904

Note: The table refers to the same samples as Table 1. The two columns show the estimated parameters for the distribution of unobserved characteristics impacting transitions into stable employment, temporary employment and cohabiting relationships. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A8 – Timing of events analysis — Model (3) without unobserved heterogeneity

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	0.674*** (0.052)	1.128*** (0.069)
First temporary job	0.119*** (0.043)	0.072* (0.043)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	No	No
Number of mass points	1	1
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	-0.418*** (0.067)	0.031 (0.071)
First temporary job	0.259*** (0.043)	-0.283*** (0.046)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	No	No
Number of mass points	1	1
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	0.063 (0.105)	0.131 (0.113)
First stable job	-0.834*** (0.082)	-1.053*** (0.088)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	No	No
Number of mass points	1	1
<i>N</i>	3551	3495
Sample log-likelihood	-21900.2	-20217.6

Note: The table refers to the same samples as Table 1. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed characteristics, yearly unemployment rates and duration variables but no unobserved heterogeneity. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A9 – Timing of events analysis — Model (3) — Robustness checks (1)

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.222*** (0.075)	1.325*** (0.084)
First temporary job	0.133*** (0.047)	0.030 (0.045)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.414*** (0.094)	0.302*** (0.090)
First temporary job	0.385*** (0.064)	0.171*** (0.063)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	0.091 (0.107)	0.083 (0.116)
First stable job	-0.772*** (0.089)	-0.772*** (0.101)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	3551	3495
Sample log-likelihood	-21241.8	-19842.8

Note: The table refers to the same samples as Table 1. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates by age groups and gender, and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A10 – Timing of events analysis — Model (3) — Robustness checks (2)

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	0.549*** (0.073)	1.424*** (0.103)
First temporary job	-0.114* (0.062)	-0.126** (0.057)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	-0.537*** (0.123)	-0.220** (0.104)
First temporary job	0.137 (0.116)	-0.282*** (0.078)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	-0.184 (0.149)	-0.025 (0.150)
First stable job	-0.708*** (0.142)	-0.734*** (0.134)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	2409	2705
Sample log-likelihood	-13773.2	-14453.0

Note: The table refers to the same samples as Table 1 restricted to individuals who did not experience the different events during two consecutive years. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.  
 \* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A11 – Timing of events analysis — Model (4) — Detailed results

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.193*** (0.081)	1.171*** (0.077)
First temporary job	0.131*** (0.050)	0.151** (0.061)
First child	0.273*** (0.102)	2.647*** (0.215)
Schooling	-0.192*** (0.071)	-0.092 (0.085)
Non residential independence	-0.026 (0.051)	-0.252*** (0.052)
Higher education	0.162*** (0.057)	0.133** (0.064)
Secondary education	0.082 (0.059)	-0.100 (0.071)
Strong religious beliefs	-0.023 (0.046)	-0.249*** (0.059)
Unemployment rate	0.009 (0.011)	0.015 (0.013)
<i>Hazard rate of a first child</i>		
First stable job	1.191*** (0.156)	0.703*** (0.139)
First temporary job	-0.152*** (0.058)	-0.105 (0.078)
First cohabiting relationship	2.578*** (0.098)	3.286*** (0.118)
Schooling	-0.663*** (0.131)	-0.438*** (0.160)
Non residential independence	-0.459*** (0.092)	-0.379*** (0.107)
Higher education	-0.221*** (0.058)	-0.362*** (0.074)
Secondary education	-0.105 (0.065)	-0.269*** (0.086)
Strong religious beliefs	0.201*** (0.051)	0.253*** (0.071)
Unemployment rate	-0.056*** (0.015)	-0.044** (0.018)
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.392*** (0.094)	0.181** (0.089)
First child	-0.666*** (0.127)	-0.201 (0.182)
First temporary job	0.398*** (0.075)	0.145** (0.065)
Schooling	-1.607*** (0.058)	-1.313*** (0.047)
Non residential independence	-0.026 (0.083)	-0.131* (0.070)
Higher education	-1.143*** (0.088)	-1.222*** (0.075)
Secondary education	-0.343*** (0.085)	-0.554*** (0.072)
Strong religious beliefs	-0.115** (0.058)	-0.144*** (0.054)
Unemployment rate	-0.138*** (0.012)	-0.092*** (0.009)
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	0.012 (0.120)	0.083 (0.128)
First child	-0.201 (0.124)	-0.079 (0.152)
First stable job	-0.822*** (0.105)	-0.786*** (0.101)
Schooling	-0.134 (0.095)	-0.238*** (0.082)
Non residential independence	0.180 (0.113)	0.104 (0.108)
Higher education	0.404*** (0.084)	0.165** (0.082)
Secondary education	0.373*** (0.090)	0.260*** (0.085)
Strong religious beliefs	-0.067 (0.067)	-0.148** (0.072)
Unemployment rate	0.096*** (0.015)	0.105*** (0.014)
<i>N</i>	3018	3148
Sample log-likelihood	-23334.7	-22739.6
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2

Note: The table refers to the same samples as Table 2. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship or a first fertility event and the impact of a first cohabiting relationship or a first fertility event on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.  
\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A12 – Unobserved heterogeneity distribution — Model (4)

	Women	Men
$p_{1111}$	0.000	0.007
$p_{1112}$	0.812	0.002
$p_{1121}$	0.038	0.009
$p_{1122}$	0.031	0.107
$p_{1211}$	0.000	0.069
$p_{1212}$	0.000	0.000
$p_{1221}$	0.011	0.000
$p_{1222}$	0.015	0.723
$p_{2111}$	0.000	0.000
$p_{2112}$	0.000	0.000
$p_{2121}$	0.007	0.000
$p_{2122}$	0.011	0.000
$p_{2211}$	0.000	0.003
$p_{2212}$	0.000	0.008
$p_{2221}$	0.000	0.013
$p_{2222}$	0.075	0.059
$v_{i,r}^1$	-3.180*** (0.133)	-3.759*** (0.149)
$v_{i,r}^2$	-1.668*** (0.191)	-6.918*** (0.364)
$v_{i,co}^1$	-4.595*** (0.224)	-7.765*** (1.083)
$v_{i,co}^2$	-2.350*** (0.199)	-5.084*** (0.242)
$v_{i,sj}^1$	1.573*** (0.141)	-1.798*** (0.176)
$v_{i,sj}^2$	-1.947*** (0.182)	1.143*** (0.106)
$v_{i,tj}^1$	-1.090*** (0.292)	-1.536*** (0.203)
$v_{i,tj}^2$	-3.095*** (0.195)	-2.933*** (0.181)
$corr(N_r, N_{sj})$	-0.666	0.041
$corr(N_r, N_{tj})$	0.030	-0.089
$corr(N_r, N_{co})$	0.749	-0.114
$corr(N_{co}, N_{sj})$	-0.698	-0.024
$corr(N_{co}, N_{tj})$	0.081	-0.036
$corr(N_{sj}, N_{tj})$	-0.508	-0.813

Note: The table refers to the same samples as Table 2. The two columns show the estimated parameters for the distribution of unobserved characteristics impacting transitions into stable employment, temporary employment, cohabiting relationships and fertility. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.



Table A13 – Timing of events analysis — Model (4) — Robustness checks

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	0.910*** (0.110)	1.596*** (0.125)
First temporary job	-0.106 (0.078)	-0.142** (0.069)
First child	-0.692*** (0.197)	0.142 (0.254)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first child</i>		
First stable job	0.664*** (0.206)	0.692*** (0.257)
First temporary job	-0.284*** (0.097)	-0.125 (0.085)
First cohabiting relationship	2.314*** (0.137)	3.589*** (0.204)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	-0.305** (0.139)	-0.093 (0.130)
First child	-0.707*** (0.189)	-0.283 (0.327)
First temporary job	0.083 (0.156)	-0.332*** (0.084)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	-0.462** (0.198)	-0.410** (0.184)
First child	0.265 (0.215)	-0.021 (0.236)
First stable job	-0.399** (0.198)	-0.830*** (0.148)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	1561	2044
Sample log-likelihood	-11167.0	-13424.0

Note: The table refers to the same samples as Table 2 restricted to individuals who did not experience the different events during two consecutive years. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship or a first fertility event and the impact of a first cohabiting relationship or a first fertility event on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A14 – Descriptive Statistics — *HB* Survey

	Older cohorts		Younger cohorts	
	Women (1)	Men (2)	Women (3)	Men (4)
Stable employment	0.84 [0.36]	0.92 [0.28]	0.90 [0.31]	0.95 [0.22]
Med. age at first stable job	17 [6.99]	18 [5.35]	20 [3.99]	20 [3.78]
Temporary employment	0.10 [0.30]	0.17 [0.37]	0.24 [0.43]	0.25 [0.43]
Med. age at first temp. job	17 [11.71]	15 [11.00]	20 [5.69]	19 [5.48]
Cohabiting relationship	0.95 [0.22]	0.96 [0.20]	0.92 [0.27]	0.91 [0.29]
Med. age at first cohabiting relationship	22 [5.23]	24 [5.50]	22 [4.02]	24 [3.87]
Children	0.88 [0.32]	0.88 [0.32]	0.77 [0.42]	0.74 [0.44]
Med. age at first child	24 [4.33]	26 [4.92]	25 [4.29]	27 [4.28]
Med. school leaving age	16 [3.14]	16 [3.72]	18 [2.99]	18 [3.18]
Higher education	0.12 [0.33]	0.16 [0.37]	0.29 [0.45]	0.27 [0.44]
Secondary education	0.10 [0.30]	0.10 [0.30]	0.16 [0.36]	0.13 [0.34]
High SES	0.29 [0.45]	0.29 [0.45]	0.34 [0.47]	0.35 [0.48]
<i>N</i>	4671	4207	4109	3428

Note: The table refers to the samples of men and women from the *HB* survey who finished initial schooling before the survey. The first column refers to the subsample of women born before 1954, the second column to the subsample of women born in or after 1954, the third column to the subsample of men born before 1954 and the fourth column to the subsample of men born in or after 1954. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 gives the median school leaving age. Row 10 indicates the proportion of men and women who graduated from higher education and row 11 from high school. Row 12 shows the proportion of individuals whose father held a high SES position. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A15 – Descriptive Statistics — *HB* Survey — Timing of events analysis — Model (5)

	Older cohorts		Younger cohorts	
	Women (1)	Men (2)	Women (3)	Men (4)
Stable employment	0.79 [0.41]	0.90 [0.30]	0.88 [0.33]	0.94 [0.23]
Med. age at first stable job	17 [3.90]	17 [3.91]	19 [3.71]	19 [3.47]
Temporary employment	0.08 [0.28]	0.15 [0.36]	0.25 [0.43]	0.25 [0.43]
Med. age at first temp. job	16 [5.78]	14 [4.36]	19 [4.74]	19 [4.80]
Cohabiting relationship	0.91 [0.29]	0.90 [0.31]	0.89 [0.31]	0.89 [0.32]
Med. age at first cohabiting relationship	22 [3.67]	24 [3.56]	22 [3.93]	24 [3.66]
Children	0.85 [0.35]	0.81 [0.39]	0.76 [0.43]	0.72 [0.45]
Med. age at first child	24 [3.87]	26 [3.79]	24 [4.26]	27 [4.00]
Med. school leaving age	16 [2.84]	16 [3.25]	18 [2.74]	18 [2.79]
Higher education	0.10 [0.30]	0.12 [0.33]	0.23 [0.42]	0.22 [0.41]
Secondary education	0.10 [0.30]	0.10 [0.31]	0.15 [0.36]	0.14 [0.34]
High SES	0.28 [0.45]	0.27 [0.44]	0.31 [0.46]	0.32 [0.47]
<i>N</i>	4401	3870	3360	2999

Note: The table refers to the same samples as Tables 3 and A18. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 gives the median school leaving age. Row 10 indicates the proportion of men and women who graduated from higher education and row 11 from high school. Row 12 shows the proportion of individuals whose father held a high SES position. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A16 – Descriptive Statistics — *HB* Survey — Timing of events analysis — Individuals with simultaneous transitions — Model (5)

	Older cohorts		Younger cohorts	
	Women (1)	Men (2)	Women (3)	Men (4)
Stable employment	1.00 [0.00]	1.00 [0.00]	1.00 [0.00]	1.00 [0.00]
Med. age at first stable job	21 [2.68]	23 [2.67]	21 [2.40]	23 [2.64]
Temporary employment	0.11 [0.32]	0.11 [0.32]	0.25 [0.43]	0.26 [0.44]
Med. age at first temp. job	18 [3.90]	16 [4.23]	20 [3.97]	19 [3.68]
Cohabiting relationship	1.00 [0.00]	1.00 [0.00]	1.00 [0.00]	1.00 [0.00]
Med. age at first cohabiting relationship	21 [2.68]	23 [2.67]	21 [2.40]	23 [2.64]
Children	0.96 [0.19]	0.98 [0.14]	0.85 [0.36]	0.76 [0.43]
Med. age at first child	24 [3.46]	25 [3.55]	24 [3.70]	26 [3.85]
Med. school leaving age	18 [3.79]	20 [4.57]	20 [2.57]	21 [3.14]
Higher education	0.36 [0.48]	0.45 [0.50]	0.39 [0.49]	0.50 [0.50]
Secondary education	0.14 [0.35]	0.09 [0.29]	0.25 [0.43]	0.14 [0.35]
High SES	0.37 [0.48]	0.43 [0.50]	0.41 [0.49]	0.46 [0.50]
<i>N</i>	159	202	379	243

Note: The table refers to similar samples as Tables 3 and A18 restricted to individuals who experienced the two events during the same year. Each row corresponds to a specific variable. Rows 1 and 3 show the employment rate over the life-course for stable jobs and temporary jobs respectively. Row 2 shows the median age at first stable job, and row 4 shows the same figure for temporary jobs. Row 5 corresponds to the proportion of individuals who lived in a cohabiting relationship before the survey, and row 8 to the proportion of individuals who had a child. Rows 6 and 7 show median age at first cohabiting relationship and at first child respectively. Row 9 gives the median school leaving age. Row 10 indicates the proportion of men and women who graduated from higher education and row 11 from high school. Row 12 shows the proportion of individuals whose father held a high SES position. For each variable and each sample, the table reports the mean or the median of the left hand side variable among the corresponding sample. Standard deviations are in brackets.

Table A17 – Timing of events analysis — Model (5) — Younger cohorts from *HB* survey

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.069*** (0.326)	1.183*** (0.110)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.633** (0.311)	0.226* (0.131)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	3360	2999
Sample log-likelihood	-12769.6	-12268.6

Note: The table refers to the samples of men and women from the *HB* survey born in or after 1954 who finished initial schooling before the survey, did not start their first stable job and their first cohabiting relationship during the same year, and experienced each event either between schooling age and the minimum of 20 years later and 1999-2000 or never experienced it. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A18 – Timing of events analysis — Model (3) — Younger cohorts from *HB* survey

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	1.399*** (0.129)	1.147*** (0.081)
First temporary job	0.009 (0.074)	0.136 (0.112)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	0.288** (0.128)	-0.204* (0.118)
First temporary job	1.560*** (0.172)	1.440*** (0.247)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first temporary job</i>		
First cohabiting relationship	-0.090 (0.171)	-0.338* (0.187)
First stable job	-0.506*** (0.179)	0.037 (0.348)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	3278	2959
Sample log-likelihood	-14764.9	-14245.0

Note: The table refers to the samples of men and women from the *HB* survey born in or after 1954 who finished initial schooling before the survey, did not start their first stable job, their first temporary job or their first cohabiting relationship during the same year, and experienced each event either between schooling age and the minimum of 20 years later and 1999-2000 or never experienced it. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable and temporary job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable and temporary job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A19 – Timing of events analysis — Model (5) — Older cohorts — Detailed results

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	0.564*** (0.049)	0.976*** (0.071)
Higher education	0.442*** (0.086)	1.340*** (0.095)
Secondary education	0.601*** (0.083)	0.835*** (0.081)
High SES	0.193*** (0.051)	0.147*** (0.054)
Unemployment rate	0.137*** (0.016)	0.152*** (0.018)
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	-1.198*** (0.119)	0.748*** (0.141)
Higher education	1.165*** (0.290)	0.033 (0.066)
Secondary education	0.818*** (0.151)	0.246*** (0.063)
High SES	0.037 (0.065)	0.037 (0.044)
Unemployment rate	0.213*** (0.025)	0.159*** (0.018)
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	4401	3870
Sample log-likelihood	-17952.6	-16830.2

Note: The table refers to the same samples as Table 3. Each column corresponds to a specific regression where the impact of a first stable job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A20 – Unobserved heterogeneity distribution — Model (3) — Older cohorts

	Women	Men
$p_{11}$	0.112	0.134
$p_{12}$	0.034	0.012
$p_{21}$	0.592	0.757
$p_{22}$	0.261	0.097
$v_{i,r}^1$	-6.567*** (0.152)	-7.921*** (0.159)
$v_{i,r}^2$	-3.547*** (0.054)	-4.591*** (0.074)
$v_{i,sj}^1$	0.250*** (0.084)	-0.029 (0.028)
$v_{i,sj}^2$	-1.900*** (0.261)	-4.988*** (0.305)
$corr(N_r, N_{sj})$	-0.055	-0.034

Note: The table refers to the same samples as Table 3. The two columns show the estimated parameters for the distribution of unobserved characteristics impacting transitions into stable employment and cohabiting relationships. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.

Table A21 – Timing of events analysis — Model (5) — Older cohorts — Robustness checks

	Women	Men
<i>Hazard rate of a first cohabiting relationship</i>		
First stable job	0.490*** (0.049)	0.980*** (0.075)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>Hazard rate of a first stable job</i>		
First cohabiting relationship	-1.374*** (0.126)	-0.238 (0.182)
Control variables	✓	✓
Piecewise constant duration	✓	✓
Unobserved characteristics	✓	✓
Number of mass points	2	2
<i>N</i>	4193	3638
Sample log-likelihood	-17103.0	-15647.1

Note: The table refers to the same samples as Table 3 restricted to individuals who did not experience the different events during two consecutive years. The first column refers to the subsample of women and the second column to the subsample of men. Each column corresponds to a specific regression where the impact of a first stable job on the hazard rate of a first cohabiting relationship and the impact of a first cohabiting relationship on the hazard rate of a first stable job are estimated jointly. All regressions include controls for individuals' observed and unobserved characteristics, yearly unemployment rates and duration variables. Standard errors are in parentheses.

\* significant at 10%. \*\* significant at 5%. \*\*\* significant at 1%.



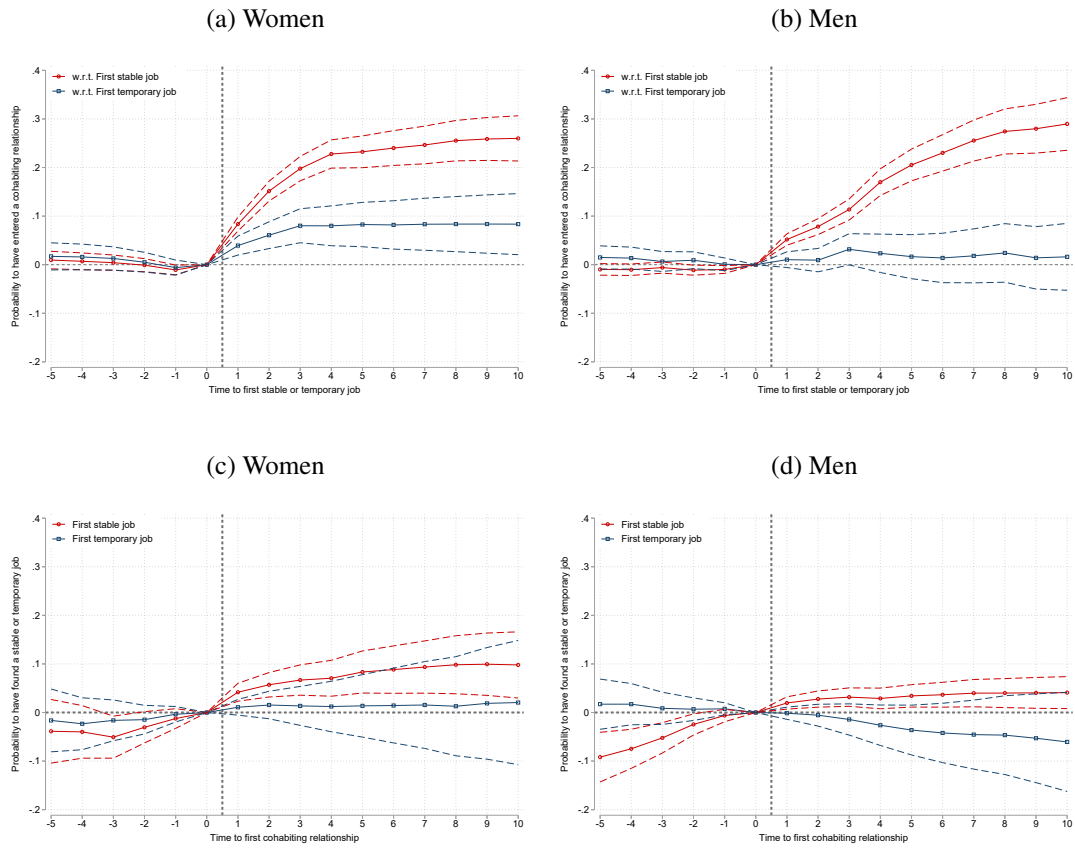


Figure A1 – First stable job, first temporary job and first cohabiting relationship

Note: The figures refer to the samples of men and women from the *FE* survey who completed initial schooling before the survey. Additionally, Figures A1a and A1b focus on men and women who started their first stable or temporary job between age 18 and 1993 or 1994. Figures A1c and A1d focus on men and women who started their first cohabiting relationship between age 23 and 1993 or 1994. Figures A1a and A1b show the event time coefficients estimated for Equations (1), and Figures A1c and A1d show the event time coefficients estimated for Equations (2). Dotted lines represent 95% confidence intervals computed with robust standard errors clustered at the individual level.

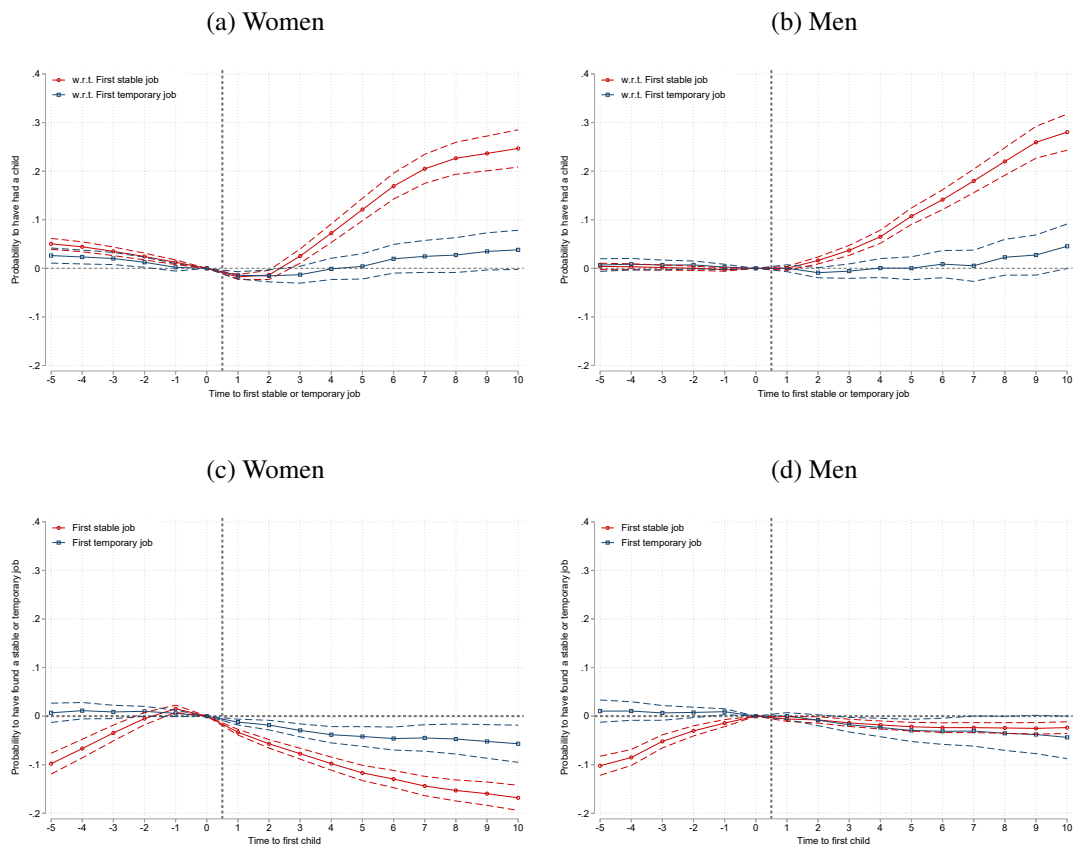


Figure A2 – First stable job, first temporary job and first child

Note: The figures refer to the samples of men and women from the *FE* survey who completed initial schooling before survey and experienced the event used for the horizontal axis between age 18 and 2003 or 2004. Figures A2a and A2b show the event time coefficients estimated for Equations (1), and Figures A2c and A2d show the event time coefficients estimated for Equations (2) where the event "first cohabiting relationship" is replaced by "first child". Dotted lines represent 95% confidence intervals computed with robust standard errors clustered at the individual level.

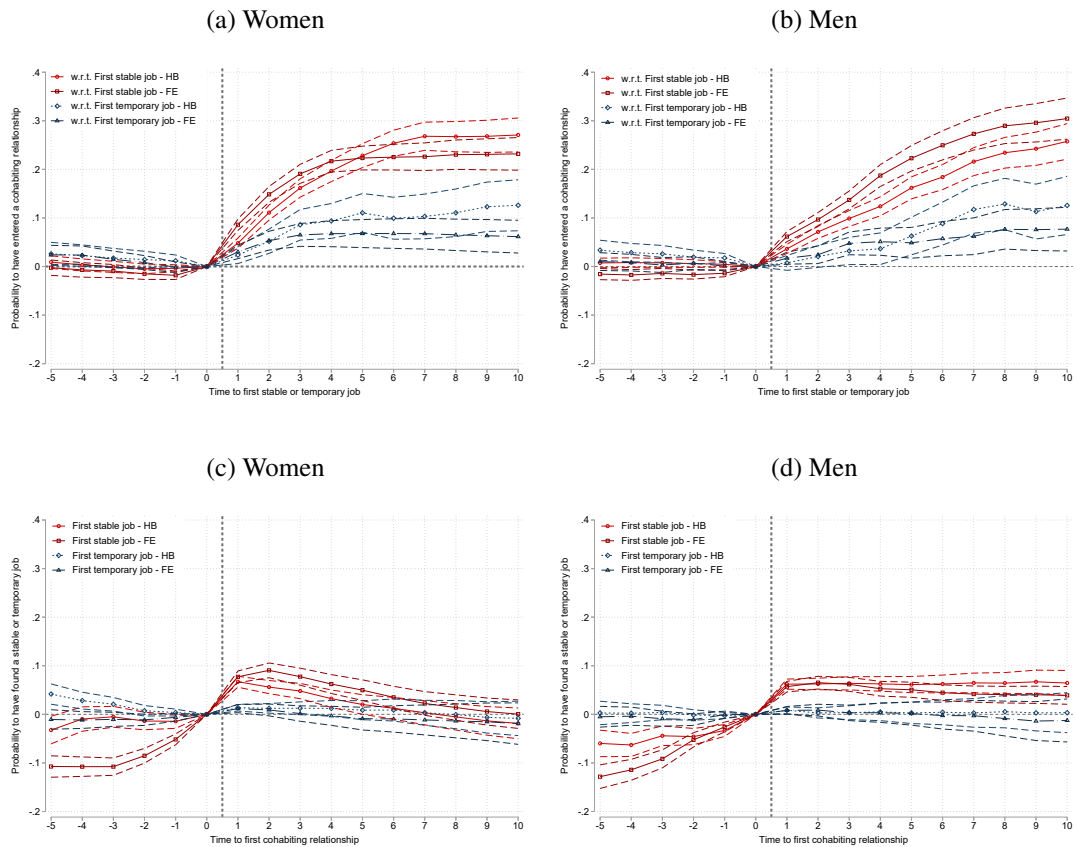


Figure A3 – First stable job, first temporary job and first cohabiting relationship – *FE* vs. *HB* surveys

Note: The figures refer either to the samples of men and women from the *FE* survey who completed initial schooling before the survey and experienced the event used for the horizontal axis between age 18 and 2003 or 2004, or to the samples of men and women from the *HB* survey born in or after 1954 who completed initial schooling before the survey and experienced the event used for the horizontal axis between school leaving age and 1999 or 2000. Figures A3a and A3b show the event time coefficients estimated for Equations (1), and Figures A3c and A3d show the event time coefficients estimated for Equations (2). Dotted lines represent 95% confidence intervals computed with robust standard errors clustered at the individual level.